Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously presented) A process for making a lube base stock comprising:
   a) inducing skeletal isomerization of an olefinic feedstock, with boiling points greater than 180°F, producing a skeletally isomerized olefinic feedstock,
   b) contacting the skeletally isomerized olefinic feedstock with an oligomerization catalyst in a catalytic distillation unit having, within it, at least one catalytic zone to produce a product with a higher number average molecular weight than the olefinic feedstock; and
   c) separating said product in said catalytic distillation unit into a light by-product fraction and a heavy product fraction, wherein said heavy product fraction comprises hydrocarbons in the lube base stock range.

2. (Previously presented) The process of claim 1, wherein at least a portion of the olefinic feedstock is derived from Fischer-Tropsch synthesis.

3. (Previously presented) The process of claim 1, wherein said olefinic feedstock has boiling points greater than 258°F.

4. (Previously presented) The process of claim 3, wherein said olefinic feedstock has boiling points within the range of from 258° to 1100°F.

5. (Previously presented) The process of claim 4, wherein said olefinic feedstock has boiling points within the range of from 258° to 650°F.

6. (Original) The process of claim 1, wherein the oligomerization catalyst comprises an acidic ionic liquid.

7. (Original) The process of claim 6, wherein the acidic ionic liquid catalyst is withdrawn continuously from the catalytic distillation unit, continuously regenerated outside the catalytic distillation unit, and then continuously reintroduced to the catalytic zone at the same rate as withdrawal.

8. (Original) The process of claim 1, wherein said oligomerization catalyst comprises an inorganic oxide support.

9. (Original) The process of claim 8, wherein said oligomerization catalyst comprises a Group VIII metal on an inorganic oxide support.

10. (Original) The process of claim 9, wherein said inorganic oxide support is a zeolitic support.

11. (Original) The process of claim 10, wherein said oligomerization catalyst is nickel on ZSM-5.

12. (Previously presented) The process of claim 1, wherein a light liquid is withdrawn from reflux within said catalytic distillation unit, providing the light by-product fraction.

13. (Previously presented) The process of claim 1, wherein excess nonolefinic portions of the olefinic feedstock are continuously removed from the catalytic zone.

14. (Previously presented) The process of claim 12, wherein at least a portion of the light by-product fraction is continuously sent to an olefin forming reactor, providing an olefinic fraction that is recycled to be used as at least a portion of the olefinic feedstock of step a).

15. (Original) The process of claim 1, further comprising hydrofinishing the heavy product.

16. (Previously presented) The process of claim 1, wherein said heavy product fraction has a viscosity of greater than 2 cSt at 100°C, a viscosity index of at least 80, and a pour point of less than -10°C.

17. (Previously presented) The process of claim 1, wherein said heavy product fraction has a viscosity of greater than 2 cSt at 100°C, a viscosity index of at least 120, and a pour point of less than -20°C.

18. (Previously presented) The process of claim 1, wherein said heavy product fraction is separated into at least one of the following fractions:

a) a light lube base stock fraction having a viscosity of from 2 to 7 cSt at 100°C;

b) a heavy lube base stock fraction having a viscosity of from 6 to 20 cSt at 100°C; and

c) a bright stock fraction having a viscosity of greater 180 cSt at 40°C.

19. (Previously presented) The process of claim 1 wherein, said heavy product fraction is predominately a bright stock fraction having a viscosity of greater than 180 cSt at 40°C.

20. (Previously presented) A process for making a lube base stock comprising:

a) obtaining a diolefin-containing olefinic feedstock with boiling points within the range of from 258° to 650°F and including between 10% and 50% olefins;

b) inducing skeletal isomerization of the diolefin-containing olefinic feedstock, producing a skeletally isomerized diolefin-containing olefinic feedstock;

c) selectively hydrogenating the skeletally isomerized diolefin-containing olefinic feedstock to saturate at least a portion of any diolefins present while not saturating most of the mono-olefins present, producing a selectively hydrogenated skeletally isomerized diolefin-containing olefinic feedstock;

d) contacting said selectively hydrogenated skeletally isomerized diolefin-containing olefinic feedstock with an oligomerization catalyst in a catalytic distillation unit having, within it, at least one catalytic zone to produce a product having a number average molecular weight at least 20% higher than the olefinic feedstock;

e) separating said product in said catalytic distillation unit into a light by-product fraction and a heavy product fraction, wherein said heavy product fraction comprises hydrocarbons in the lube base stock range with a viscosity of greater than 2 cSt at 100°C, a viscosity index of above 80 and a pour point of less than -10°C;

f) withdrawing nonolefinic portions of feedstock from the catalytic zone; and

g) hydrofinishing said heavy product fraction.

21. (Canceled)

22. (Previously presented) A process for making a lube base stock comprising:

a) inducing skeletal isomerization of an olefinic feedstock, with boiling point greater than 258°F, producing a skeletally isomerized olefinic feedstock,

b) contacting the skeletally isomerized olefinic feedstock with an oligomerization catalyst in a catalytic distillation unit to produce a product with a higher number average molecular weight than the olefinic feedstock; and

c) separating said product in said catalytic distillation unit into a light by-product fraction and a heavy product fraction, wherein said heavy product fraction has an initial boiling point of at least 572°F and comprises hydrocarbons in the lube base stock range.